5 April 1963

MEMORANDUM FOR THE RECORD

SUBJECT: Conference of 1 April 1963 held at the [redacted] 25X1

Project File
Data Block Reader

1. A discussion was held at the [redacted] offices concerning the possible design and fabrication of a Data Block Reader by this company. In attendance were [redacted] of NPIC and Messrs. [redacted] 25X1 25X1 25X1

2. For the initial readout from the data block, a punch tape or card deck had been contemplated. The rate of production of this system was about 50 cards per minute. This was considered entirely too slow for our purposes. FMA suggested the addition of a core buffer to increase the capability of the readout for a variety of systems output. The reader capability is not the limiting factor but the punch tape or card deck systems are. These two systems will not be considered for our use. The most feasible system seems to be a combination of the CMR with a core buffer added. The probable size of the cabinets would be 10" wide X 32" deep X 5' in height. Two units would be necessary. The film transport system would be similar to that used by the Westover "Flying Spot Scanner." A scratch test made by Westover produced no scratches or frilling of the film on any type that was used in the test. It is necessary to include a constant tension device to prevent film slippage in order that film be metered accurately as in the Westover instrument. Additional requirements that roll film up to 9½" be used, and that a digit counter with manual reset and a polarity reversal capability be included in the Data Block Reader.

3. The Westover instrument is now capable of reading 90 mil bits on 120 mil centers but could be modified, according to [redacted], over a period of time which would actually extend into a couple of months due to the limitations incorporated in the original instrument. For example, the modified reader could read the data block of the panoramic frame but not the binary of the Index camera. This would necessitate the modification of their second scanner. Thus it would seem that each instrument can be modified, but only for a specific readout capability. It was also stated by [redacted] that it would be just as easy to design a new instrument incorporating circuitry capable of accepting a wide variety of film recorded data by using "plug-in" reader heads as it would be to modify the Westover "Flying Spot Scanner." Further research has to be done in this matter since a talk with [redacted] revealed that he was under the impression that the Westover instrument had a capability for readout from various systems. [redacted] stated that he would call NPIC as soon as possible after clearing up the situation. 25X1 25X1 25X1 25X1

4. During the discussion with [redacted] a question was brought up by [redacted] The data block bits of the KH-6 system are very close together. This, due to 25X1 25X1

the scan rate of the instrument, makes it extremely difficult for the reader to distinguish between the bits and the spaces between bits. If there were any blossoming of the bits so that the density of the bit and the space between bits were almost equal, a continuous reading of one bit without the recording of the other bit would result. Two solutions were proposed:

a. That the bit diameter be reduced by approximately 30% to insure definite separation and improve the accuracy of the readout and,

b. That each bit could be scanned four or five times across its diameter so that the largest diameter or a predetermined bit distance measurement would activate the readout of each bit. This method would reduce accuracy of the readout especially if all bit centers were not perfectly alinged.

5. In conclusion, two problems in addition to those already apparent were added to this project. One, is the Westover Flying Spot Scanner capable of readout of any system and two, can there be a reduction in size of the panoramic data block of the KH-6 system? The first will I hope be resolved by a phone call from [redacted] and the second would necessarily have to be presented to the [redacted] company for appraisal. [redacted] are scheduled for a trip to Boston the week of April 8, it may be brought up at this time. 25X1 25X1

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Development Branch, P&DS